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SEQUENCE LISTING

<110> Cadus Pharmaceutical Corporation

<120> YEAST CELLS EXPRESSING MODIFIED G PROTEINS AND METHODS
OF USE THEREFOR

<130> CPI-012C8PC

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<151> 1993-03-31

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<170> PatentIn Ver. 2.0

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1 5 10 15

Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln
20 25 30

Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Gly
35 40 45

Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu
50 55 60

His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val
65 70 75 80

Ile Trp Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala
85 90 95

Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys
100 105 110

Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp
115 120 125

Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr
130 135 140

Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser
145 150 155 160

Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn
165 170 175

Val Lys Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu
180 185 190

Asp Ala Asp Arg Asn Asn Ser Ser Arg Ile Asn Leu Gln Asp Ile Cys
195 200 205

Lys Asp Leu Asn Gln Glu Gly Asp Asp Gln Met Phe Val Arg Lys Thr
210 215 220

Ser Arg Glu Ile Gln Gly Gln Asn Arg Arg Asn Leu Ile His Glu Asp
225 230 235 240

Ile Ala Lys Ala Ile Lys Gln Leu Trp Asn Asn Asp Lys Gly Ile Lys
245 250 255

Gln Cys Phe Ala Arg Ser Asn Glu Phe Gln Leu Glu Gly Ser Ala Ala
260 265 270

Tyr Tyr Phe Asp Asn Ile Glu Lys Phe Ala Ser Pro Asn Tyr Val Cys
275 280 285

Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr
290 295 300

Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala
305 310 315 320

Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly
325 330 335

Ile Thr Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met
340 345 350

Leu Phe Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu
355 360 365

Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile
370 375 380

Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met
385 390 395 400

Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala
405 410 415

Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys
420 425 430

Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln
435 440 445

Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln
450 455 460

Asn Leu Lys Glu Tyr Asn Leu Val
465 470

<210> 109
<211> 472
<212> PRT
<213> Chimaera sp.

<400> 109
Met Gly Cys Thr Val Ser Thr Gln Thr Ile Gly Asp Glu Ser Asp Pro
1 5 10 15

Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln
20 25 30

Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Gly
35 40 45

Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu
50 55 60

His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val
65 70 75 80

Ile Trp Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala
85 90 95

Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys
100 105 110

Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp
115 120 125

Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr
130 135 140

Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser
145 150 155 160

Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn
165 170 175

Val Lys Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu
180 185 190

Asp Ala Asp Arg Asn Asn Ser Ser Arg Ile Asn Leu Gln Asp Ile Cys
195 200 205

Lys Asp Leu Asn Gln Glu Gly Asp Asp Gln Met Phe Val Arg Lys Thr
210 215 220

Ser Arg Glu Ile Gln Gly Gln Asn Arg Arg Asn Leu Ile His Glu Asp
225 230 235 240

Ile Ala Lys Ala Ile Lys Gln Leu Trp Asn Asn Asp Lys Gly Ile Lys
245 250 255

Gln Cys Phe Ala Arg Ser Asn Glu Phe Gln Leu Glu Gly Ser Ala Ala
260 265 270

Tyr Tyr Phe Asp Asn Ile Glu Lys Phe Ala Ser Pro Asn Tyr Val Cys
275 280 285

Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr
290 295 300

Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala
305 310 315 320

Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly
325 330 335

Ile Thr Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met
340 345 350

Leu Phe Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu
355 360 365

Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile
370 375 380

Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met

385

390

395

400

Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala
 405 410 415

Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys
 420 425 430

Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln
 435 440 445

Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln
 450 455 460

Asn Leu Lys Asp Ile Met Leu Gln
 465 470

<210> 110

<211> 472

<212> PRT

<213> Chimaera sp.

<400> 110

Met Gly Cys Thr Val Ser Thr Gln Thr Ile Gly Asp Glu Ser Asp Pro
 1 5 10 15

Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln
 20 25 30

Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Gly
 35 40 45

Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu
 50 55 60

His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val
 65 70 75 80

Ile Trp Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala
 85 90 95

Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys
 100 105 110

Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp
 115 120 125

Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr
 130 135 140

Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser
 145 150 155 160

Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn
 165 170 175

Val Lys Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu

180

185

190

Asp Ala Asp Arg Asn Asn Ser Ser Arg Ile Asn Leu Gln Asp Ile Cys
 195 200 205

Lys Asp Leu Asn Gln Glu Gly Asp Asp Gln Met Phe Val Arg Lys Thr
 210 215 220

Ser Arg Glu Ile Gln Gly Gln Asn Arg Arg Asn Leu Ile His Glu Asp
 225 230 235 240

Ile Ala Lys Ala Ile Lys Gln Leu Trp Asn Asn Asp Lys Gly Ile Lys
 245 250 255

Gln Cys Phe Ala Arg Ser Asn Glu Phe Gln Leu Glu Gly Ser Ala Ala
 260 265 270

Tyr Tyr Phe Asp Asn Ile Glu Lys Phe Ala Ser Pro Asn Tyr Val Cys
 275 280 285

Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr
 290 295 300

Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala
 305 310 315 320

Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly
 325 330 335

Ile Thr Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met
 340 345 350

Leu Phe Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu
 355 360 365

Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile
 370 375 380

Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met
 385 390 395 400

Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala
 405 410 415

Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys
 420 425 430

Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln
 435 440 445

Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln
 450 455 460

Asn Leu Lys Gln Tyr Glu Leu Leu
 465 470

<211> 472
<212> PRT
<213> Chimaera sp.

<400> 111
Met Gly Cys Thr Val Ser Thr Gln Thr Ile Gly Asp Glu Ser Asp Pro
1 5 10 15

Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln
20 25 30

Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Gly
35 40 45

Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu
50 55 60

His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val
65 70 75 80

Ile Trp Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala
85 90 95

Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys
100 105 110

Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp
115 120 125

Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr
130 135 140

Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser
145 150 155 160

Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn
165 170 175

Val Lys Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu
180 185 190

Asp Ala Asp Arg Asn Asn Ser Ser Arg Ile Asn Leu Gln Asp Ile Cys
195 200 205

Lys Asp Leu Asn Gln Glu Gly Asp Asp Gln Met Phe Val Arg Lys Thr
210 215 220

Ser Arg Glu Ile Gln Gln Asn Arg Arg Asn Leu Ile His Glu Asp
225 230 235 240

Ile Ala Lys Ala Ile Lys Gln Leu Trp Asn Asn Asp Lys Gly Ile Lys
245 250 255

Gln Cys Phe Ala Arg Ser Asn Glu Phe Gln Leu Glu Gly Ser Ala Ala
260 265 270

Tyr Tyr Phe Asp Asn Ile Glu Lys Phe Ala Ser Pro Asn Tyr Val Cys
275 280 285

Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr
 290 295 300
 Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala
 305 310 315 320
 Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly
 325 330 335
 Ile Thr Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met
 340 345 350
 Leu Phe Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu
 355 360 365
 Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile
 370 375 380
 Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met
 385 390 395 400
 Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala
 405 410 415
 Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys
 420 425 430
 Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln
 435 440 445
 Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln
 450 455 460
 Asn Leu Lys Gln Leu Met Leu Gln
 465 470

<210> 112
 <211> 472
 <212> PRT
 <213> Chimaera sp.

<400> 112
 Met Gly Cys Thr Val Ser Thr Gln Thr Ile Gly Asp Glu Ser Asp Pro
 1 5 10 15
 Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln
 20 25 30
 Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Gly
 35 40 45
 Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu
 50 55 60
 His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val
 65 70 75 80

Ile Trp Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala
85 90 95

Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys
100 105 110

Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp
115 120 125

Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr
130 135 140

Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser
145 150 155 160

Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn
165 170 175

Val Lys Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu
180 185 190

Asp Ala Asp Arg Asn Asn Ser Ser Arg Ile Asn Leu Gln Asp Ile Cys
195 200 205

Lys Asp Leu Asn Gln Glu Gly Asp Asp Gln Met Phe Val Arg Lys Thr
210 215 220

Ser Arg Glu Ile Gln Gly Gln Asn Arg Arg Asn Leu Ile His Glu Asp
225 230 235 240

Ile Ala Lys Ala Ile Lys Gln Leu Trp Asn Asn Asp Lys Gly Ile Lys
245 250 255

Gln Cys Phe Ala Arg Ser Asn Glu Phe Gln Leu Glu Gly Ser Ala Ala
260 265 270

Tyr Tyr Phe Asp Asn Ile Glu Lys Phe Ala Ser Pro Asn Tyr Val Cys
275 280 285

Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr
290 295 300

Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala
305 310 315 320

Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly
325 330 335

Ile Thr Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met
340 345 350

Leu Phe Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu
355 360 365

Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile
370 375 380

Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met
385 390 395 400

Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala
405 410 415

Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys
420 425 430

Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln
435 440 445

Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln
450 455 460

Asn Leu Lys Tyr Ile Gly Leu Cys
465 470

<210> 113

<211> 472

<212> PRT

<213> Chimaera sp.

<400> 113

Met Gly Cys Thr Val Ser Thr Gln Thr Ile Gly Asp Glu Ser Asp Pro
1 5 10 15

Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln
20 25 30

Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Gly
35 40 45

Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu
50 55 60

His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val
65 70 75 80

Ile Trp Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala
85 90 95

Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys
100 105 110

Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp
115 120 125

Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr
130 135 140

Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser
145 150 155 160

Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn
165 170 175

Val Lys Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu
180 185 190

Asp Ala Asp Arg Asn Asn Ser Ser Arg Ile Asn Leu Gln Asp Ile Cys
195 200 205

Lys Asp Leu Asn Gln Glu Gly Asp Asp Gln Met Phe Val Arg Lys Thr
210 215 220

Ser Arg Glu Ile Gln Gly Gln Asn Arg Arg Asn Leu Ile His Glu Asp
225 230 235 240

Ile Ala Lys Ala Ile Lys Gln Leu Trp Asn Asn Asp Lys Gly Ile Lys
245 250 255

Gln Cys Phe Ala Arg Ser Asn Glu Phe Gln Leu Glu Gly Ser Ala Ala
260 265 270

Tyr Tyr Phe Asp Asn Ile Glu Lys Phe Ala Ser Pro Asn Tyr Val Cys
275 280 285

Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr
290 295 300

Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala
305 310 315 320

Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly
325 330 335

Ile Thr Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met
340 345 350

Leu Phe Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu
355 360 365

Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile
370 375 380

Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met
385 390 395 400

Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala
405 410 415

Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys
420 425 430

Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln
435 440 445

Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln
450 455 460

Asn Leu Lys Gly Cys Gly Leu Tyr
465 470

<210> 114
<211> 472
<212> PRT
<213> Chimaera sp.

<400> 114
Met Gly Cys Thr Val Ser Thr Gln Thr Ile Gly Asp Glu Ser Asp Pro
1 5 10 15

Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln
20 25 30

Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Gly
35 40 45

Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu
50 55 60

His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val
65 70 75 80

Ile Trp Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala
85 90 95

Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys
100 105 110

Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp
115 120 125

Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr
130 135 140

Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser
145 150 155 160

Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn
165 170 175

Val Lys Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu
180 185 190

Asp Ala Asp Arg Asn Asn Ser Ser Arg Ile Asn Leu Gln Asp Ile Cys
195 200 205

Lys Asp Leu Asn Gln Glu Gly Asp Asp Gln Met Phe Val Arg Lys Thr
210 215 220

Ser Arg Glu Ile Gln Gly Gln Asn Arg Arg Asn Leu Ile His Glu Asp
225 230 235 240

Ile Ala Lys Ala Ile Lys Gln Leu Trp Asn Asn Asp Lys Gly Ile Lys
245 250 255

Gln Cys Phe Ala Arg Ser Asn Glu Phe Gln Leu Glu Gly Ser Ala Ala
260 265 270

Tyr Tyr Phe Asp Asn Ile Glu Lys Phe Ala Ser Pro Asn Tyr Val Cys

275

280

285

Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr
 290 295 300

Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala
 305 310 315 320

Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly
 325 330 335

Ile Thr Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met
 340 345 350

Leu Phe Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu
 355 360 365

Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile
 370 375 380

Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met
 385 390 395 400

Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala
 405 410 415

Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys
 420 425 430

Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln
 435 440 445

Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln
 450 455 460

Asn Leu Asp Glu Ile Asn Leu Leu
 465 470

<210> 115

<211> 472

<212> PRT

<213> Chimaera sp.

<400> 115

Met Gly Cys Thr Val Ser Thr Gln Thr Ile Gly Asp Glu Ser Asp Pro
 1 5 10 15

Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln
 20 25 30

Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Gly
 35 40 45

Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu
 50 55 60

His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val

65

70

75

80

Ile Trp Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala
85 90 95

Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys
100 105 110

Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp
115 120 125

Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr
130 135 140

Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser
145 150 155 160

Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn
165 170 175

Val Lys Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu
180 185 190

Asp Ala Asp Arg Asn Asn Ser Ser Arg Ile Asn Leu Gln Asp Ile Cys
195 200 205

Lys Asp Leu Asn Gln Glu Gly Asp Asp Gln Met Phe Val Arg Lys Thr
210 215 220

Ser Arg Glu Ile Gln Gly Gln Asn Arg Arg Asn Leu Ile His Glu Asp
225 230 235 240

Ile Ala Lys Ala Ile Lys Gln Leu Trp Asn Asn Asp Lys Gly Ile Lys
245 250 255

Gln Cys Phe Ala Arg Ser Asn Glu Phe Gln Leu Glu Gly Ser Ala Ala
260 265 270

Tyr Tyr Phe Asp Asn Ile Glu Lys Phe Ala Ser Pro Asn Tyr Val Cys
275 280 285

Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr
290 295 300

Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala
305 310 315 320

Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly
325 330 335

Ile Thr Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met
340 345 350

Leu Phe Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu
355 360 365

Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile
370 375 380

Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met
385 390 395 400

Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala
405 410 415

Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys
420 425 430

Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln
435 440 445

Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln
450 455 460

Asn Leu Arg Gln Tyr Glu Leu Leu
465 470

<210> 116

<211> 67

<212> DNA

<213> Chimaera sp.

<400> 116

acgtggtctc ccatgacttt ggaatctatt atggcttggtt gtcttagtac gcaaacaata 60
ggagacg 67

<210> 117

<211> 21

<212> DNA

<213> Chimaera sp.

<400> 117

gtatcttga accacttaga g 21

<210> 118

<211> 478

<212> PRT

<213> Chimaera sp.

<400> 118

Met Thr Leu Glu Ser Ile Met Ala Cys Cys Leu Ser Thr Gln Thr Ile
1 5 10 15

Gly Asp Glu Ser Asp Pro Phe Leu Gln Asn Lys Arg Ala Asn Asp Val
20 25 30

Ile Glu Gln Ser Leu Gln Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile
35 40 45

Lys Leu Leu Leu Gly Ala Gly Glu Ser Gly Lys Ser Thr Val Leu
50 55 60

Lys Gln Leu Lys Leu Leu His Gln Gly Gly Phe Ser His Gln Glu Arg
65 70 75 80

Leu Gln Tyr Ala Gln Val Ile Trp Ala Asp Ala Ile Gln Ser Met Lys
85 90 95

Ile Leu Ile Ile Gln Ala Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp
100 105 110

Asp Pro Ile Asn Asn Lys Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu
115 120 125

Lys Ala Lys Ala Leu Asp Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser
130 135 140

Asp Phe Leu Asn Asp Tyr Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr
145 150 155 160

Arg Arg Arg Val Gln Ser Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu
165 170 175

Asp Gly Asn Ile Ser Asn Val Lys Ser Asp Thr Asp Arg Asp Ala Glu
180 185 190

Thr Val Thr Gln Asn Glu Asp Ala Asp Arg Asn Asn Ser Ser Arg Ile
195 200 205

Asn Leu Gln Asp Ile Cys Lys Asp Leu Asn Gln Glu Gly Asp Asp Gln
210 215 220

Met Phe Val Arg Lys Thr Ser Arg Glu Ile Gln Gly Gln Asn Arg Arg
225 230 235 240

Asn Leu Ile His Glu Asp Ile Ala Lys Ala Ile Lys Gln Leu Trp Asn
245 250 255

Asn Asp Lys Gly Ile Lys Gln Cys Phe Ala Arg Ser Asn Glu Phe Gln
260 265 270

Leu Glu Gly Ser Ala Ala Tyr Tyr Phe Asp Asn Ile Glu Lys Phe Ala
275 280 285

Ser Pro Asn Tyr Val Cys Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile
290 295 300

Lys Thr Thr Gly Ile Thr Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys
305 310 315 320

Phe Lys Val Leu Asp Ala Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp
325 330 335

Ile His Cys Phe Glu Gly Ile Thr Ala Val Leu Phe Val Leu Ala Met
340 345 350

Ser Glu Tyr Asp Gln Met Leu Phe Glu Asp Glu Arg Val Asn Arg Met
355 360 365

His Glu Ser Ile Met Leu Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe
370 375 380

Lys Asp Thr Pro Phe Ile Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu

385 390 395 400

Glu Lys Val Lys Ser Met Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln
405 410 415

Gly Arg Val Gly Asp Ala Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile
420 425 430

Phe Leu Ser Leu Asn Lys Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr
435 440 445

Cys Ala Thr Asp Thr Gln Thr Met Lys Phe Val Leu Ser Ala Val Thr
450 455 460

Asp Leu Ile Ile Gln Gln Asn Leu Lys Glu Tyr Asn Leu Val
465 470 475

<210> 119

<211> 23

<212> DNA

<213> Chimaera sp.

<400> 119

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Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Leu Gly Ala Gly
35 40 45

Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu His Gln
50 55 60

Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val Ile Trp
65 70 75 80

Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala Arg Lys
85 90 95

Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys Asp Leu
100 105 110

Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp Tyr Ile
115 120 125

Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr Val Leu
130 135 140

Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser Thr Gly
145 150 155 160

Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn Val Lys
165 170 175

Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu Asp Ala
180 185 190

Asp Arg Asn Asn Ser Ser Arg Ile Asn Leu Gln Asp Ile Cys Lys Asp
195 200 205

Leu Asn Gln Glu Gly Asp Asp Gln Met Phe Val Arg Lys Thr Ser Arg
210 215 220

Glu Ile Gln Gly Gln Asn Arg Arg Asn Leu Ile His Glu Asp Ile Ala
225 230 235 240

Lys Ala Ile Lys Gln Leu Trp Asn Asn Asp Lys Gly Ile Lys Gln Cys
245 250 255

Phe Ala Arg Ser Asn Glu Phe Gln Leu Glu Gly Ser Ala Ala Tyr Tyr
260 265 270

Phe Asp Asn Ile Glu Lys Phe Ala Ser Pro Asn Tyr Val Cys Thr Asp
275 280 285

Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr Glu Thr
290 295 300

Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala Gly Gly
305 310 315 320

Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly Ile Thr
325 330 335

Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met Leu Phe
340 345 350

Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu Phe Asp
355 360 365

Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile Leu Phe
370 375 380

Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met Pro Ile
385 390 395 400

Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala Glu Ala
405 410 415

Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys Thr Asn
420 425 430

Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln Thr Met
435 440 445

Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln Asn Leu
450 455 460

Lys Glu Tyr Asn Leu Val
465 470